Product Brief

Intel® Server Board SE7520JR2

- Support for Dual Intel® Xeon™ Processors
- Intel® E7520 Chipset
- PCI Express* I/O Interconnect Technology

Intel® Server Board SE7520JR2

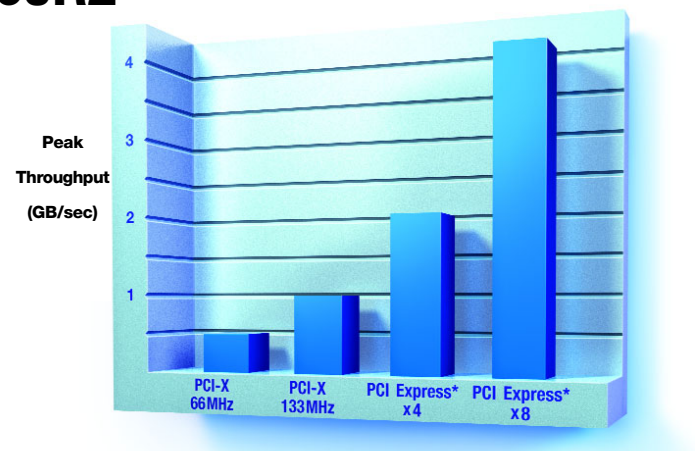
Outstanding performance, dependability, and manageability for high-density solutions

The Intel® Xeon™ processor, with up to 2MB Advanced Transfer Cache, Hyper-Threading Technology, Intel® Extended Memory 64 Technology (Intel® EM64T)[1] and Enhanced Intel SpeedStep® technology[2], provides remarkable levels of performance for growing businesses.

Intel® Server Board SE7520JR2

Enterprise-level computing in a space-constrained setting presents challenges in terms of processing power, memory, networking, I/O, and storage. Organizations in such environments, especially those running Internet, departmental database, datacenter, and other high-transaction applications, need a server solution addressing these challenges with high levels of performance, reliability, and manageability. For such organizations, Intel provides the Intel® Server Board SE7520JR2.

For processing performance, the Server Board SE7520JR2 supports dual Intel® Xeon™ processors with an 800MHz system bus and the purpose-built Intel® E7520 chipset. A reliable, high-capacity memory subsystem is provided through support for six dual-channel Registered Error-Correcting Code (ECC) DIMM sockets available in DDR 266/333 and DDR2 400 configurations and with memory sparing and mirroring. The Server Board SE7520JR2 also includes versatile networking through dual integrated Intel® PRO/1000 MT Server Network Connections and flexible and powerful I/O with up to two slots in a 1U system and six in a 2U system supporting next-generation PCI Express* as well as PCI and PCI-X.

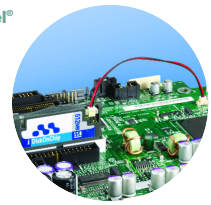


PCI Express* Offers Outstanding Data Throughput

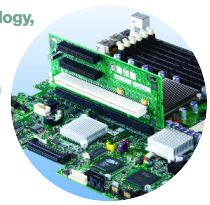
In the Intel® Server Board SE7520JR2, the PCI Express* x8[3] slot provides up to eight times the throughput of PCI-X 66MHz. ***Calculations are based on maximum theoretical throughput. Individual results may vary.***

In addition, the Intel Server Board SE7520JR2 provides highly reliable and scalable storage through dual-channel ATA 100 supporting up to four IDE devices, dual-channel Serial ATA supporting RAID 0 and 1, and optional integrated dual-channel Ultra320 SCSI with embedded SCSI striping and mirroring. Finally, a number of Intel server technologies supported in the Server Board SE7520JR2 help to maintain system robustness while simplifying administration, management, and maintenance.

Through an optional ATA Flash Disk drive, the Intel® Server Board SE7520JR2 provides an efficient power-cabling solution.

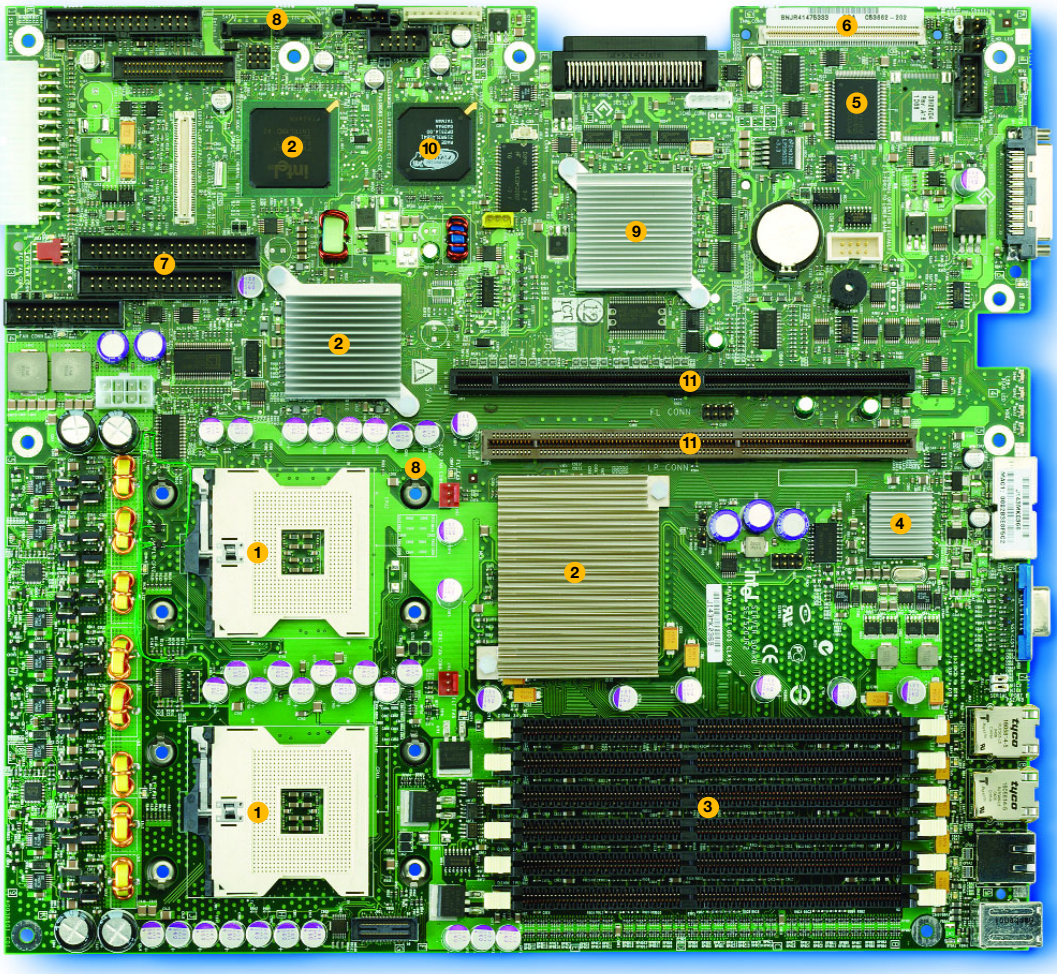


Through its support for Intel® Adaptive Slot technology, the Intel® Server Board SE7520JR2 provides integrators and businesses a highly flexible approach to maintaining and enhancing I/O capabilities based on PCI Express*, PCI-X[4], and PCI.



Intel® Server Board SE7520JR2 Features and Benefits

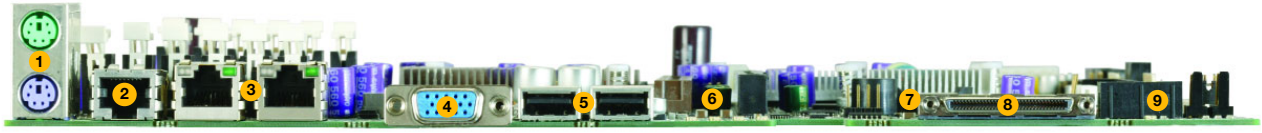
Features	Benefits
Support for one or two Intel® Xeon™ processors with an 800MHz system bus	**Exceptional processing power and scalability to meet the demanding requirements of departmental workloads**
Intel® E7520 chipset	**High performance and quality in a purpose-built server chipset**
Dual-channel memory with support for six Registered Error-Correcting Code (ECC) DIMM sockets and memory sparing and mirroring; available in DDR 266/333 and DDR2 400 configurations	**Powerful and reliable memory subsystem with the capacity to support diverse server tasks; two memory configurations for easy customization**
Support for PCI Express*, PCI-X, and PCI accessed through two riser slots: two adapter slots on a 1U system and up to six adapter slots on a 2U system	**Support for multiple I/O configurations spanning I/O interconnect architectures**
Optional dual-channel Ultra320 SCSI supporting embedded SCSI striping and mirroring (RAID 0 and 1) and modular ROMB (RAID 0, 1, 4, 5, and 10)	**Rapid data transfer with embedded RAID functionality**
Two integrated Intel® PRO/1000 MT Server Network Connections (Intel® 82546GB controller)	**High bandwidth with widespread compatibility, teaming capability, and redundant links**



Intel® Server Board SE7520JR2

1. Support for two Intel® Xeon™ processors with 800MHz system bus
2. Intel® E7520 chipset
3. Support for up to six DIMMs of Registered ECC DDR 266/333 or DDR2 400 SDRAM
   - Support for memory sparing and mirroring
4. Two Intel® PRO/1000 MT Server Network Connections
5. Intel® Server Management 8
   - Onboard Platform Instrumentation
6. Intel® Management Module upgrade connector
   - Support for Intel® Management Module Professional Edition and Intel® Management Module Advanced Edition (optional upgrades)
7. Dual-channel ATA 100 supporting up to four IDE devices
8. Dual-channel Serial ATA supporting RAID 0 and 1
9. Optional integrated dual-channel Ultra320 SCSI supporting RAID 0 and 1
10. Integrated graphics
    - ATI* RAGE* XL SVGA PCI video controller with 8 MB of video memory
11. Four independent PCI buses supporting PCI Express*, PCI-X, and PCI, accessed through two riser slots:
    - Two adapter slots on a 1U system
    - Up to six adapter slots on a 2U system

Intel® Server Board SE7520JR2 – I/O Panel Features



1. PS/2* keyboard and mouse connectors
2. RJ45 video connector
3. Dual Ethernet connectors
4. Video connector
5. Dual USB connectors
6. Post-code diagnostic LEDs
7. System-ID LED
8. Optional external SCSI connector
9. System status LED

The Intel® Server Board SE7520JR2 Supports Technologies That Define Innovation[5]

A number of sophisticated Intel server technologies work together in the Intel Server Board SE7520JR2 to meet the needs of organizations requiring outstanding performance, dependability, and manageability in a high-density server solution. To reinforce the performance afforded by the server board's support of the Intel® Xeon™ processor and help to protect it over the long term, the Server Board SE7520JR2 features **Intel® Power and Thermal Headroom**. This technology provides sufficient power supply and thermal protection to maintain performance levels in current and next-generation servers. Of particular importance in a high-density environment is **Intel® Active Airflow Control**, which works in concert with Intel Power and Thermal Headroom to monitor temperatures and adjust fans accordingly.

Intel server technologies provide powerful capabilities designed to make server systems more reliable, more available, and easier to service. Seamlessly integrated into the latest generation of Intel® Server Products, these technologies work in concert to complement the capabilities of the most current Intel processor and chipset technologies.

In addition to supporting outstanding processing performance, the Intel Server Board SE7520JR2 supports high levels of I/O performance in a flexible, cost-effective fashion. Through **Intel® Adaptive Slot** technology, the board provides two riser slots, one supporting PCI-X and the other supporting both PCI-X and PCI Express. This enables integrators to expand their offerings without having to expand inventory and enables businesses to upgrade I/O performance without having to upgrade equipment.

Manageability is supported in the Intel Server Board SE7520JR2 through the Intel® Server Management 8 suite of hardware, software, and utilities. The capabilities of Intel Server Management 8 are bolstered by the optional **Intel® Local Control Panel**[6], which enables monitoring and control of the server from the front panel and **Intel® Light-Guided Diagnostics**, which simplifies troubleshooting to enable easier servicing and faster recovery. Finally, the **Intel® Validation Stress Test Suite** provides a powerful foundation for all these capabilities, ensuring that the Server Board SE7520JR2 has passed some of the industry's most rigorous and extensive testing to optimize time-to-market, maximize data integrity, and minimize support costs.

Intel® Power and Thermal Headroom

Intel® Active Airflow Control

Intel® Adaptive Slot

Intel® Local Control Panel

Intel® Light Guided Diagnostics

Intel® Validation Stress Test Suite

For more information on these technologies, please visit:
http://developer.intel.com/design/servers/technologies/

Intel® Server Board SE7520JR2 Boxed Contents

The Intel Server Board SE7520JR2 comes with all the board components required to help build a high-performance server in a high-density environment.

1. One Intel® Server Board SE7520JR2
2. Quick Start User Guide
3. Intel® Server Management 8 CD Pack containing:
   - Intel® Server Deployment Toolkit with Intel® Express Installer, Intel® Server Maintenance and Reference Training (SMaRT) Tool Software, server product information, technical documentation, customer support information, drivers and utilities, and Web links
   - CD-ROM with Intel® Server Manager 8 family of software
4. I/O shield
5. Board-configuration label

The Intel® Server Board SE7520JR2 is Part of a Family of Server Boards[7] for 1U and 2U Rack-Mount Applications and Supporting the Intel® Xeon™ Processor with an 800MHz System Bus.

Product	Market	Positioning	PCI Configuration[8]	Integrated Storage	Integrated Networking	Memory Support	Management Solution	Other Innovations
SE7520JR2	Web hosting, data center, terminal services, high-performance computing (HPC)	Outstanding performance, dependability, and manageability for high-density solutions	Four independent PCI buses supporting up to PCI Express x8 and PCI-X 133MHz	Optional dual-channel Ultra320 SCSI with support for RAID 0 and 1, dual-channel SATA with support for RAID 0 and 1, two EIDE channels supporting up to four IDE devices	Dual Intel® PRO/1000 MT Server Network Connections	Six DIMMs, up to 24 GB of ECC DDR 266 or 16 GB of ECC DDR 333 or DDR2 400	Intel® Server Management 8: Support for Intel Management Module upgrade (Professional and Advanced Editions)	Support for Intel® Local Control Panel[6], Intel® Cable Reduction Technology, Intel® Light-Guided Diagnostics, and Intel® Adaptive Slot technology
SE7320VP2	Entry-level Web hosting, data center, terminal services, HPC	High-density optimized server board for entry-level parallel computing and front-end solutions	Four independent PCI buses supporting up to PCI Express x4 and PCI-X 66MHz	Dual-channel SATA with support for RAID 0 and 1, two EIDE channels supporting up to four IDE devices	Dual Gigabit Ethernet connections	Six DIMMs, up to 24 GB of ECC DDR 266 or 16 GB of ECC DDR 333 or DDR2 400	Intel Server Management 8	Support for Intel® Adaptive Slot technology
SR1325TP1	Basic appliances	1U rack-optimized server platform for entry-level high-density server solutions	Three independent PCI buses (one via CSA port) supporting up to PCI-X 66MHz	Dual-channel SATA, two EIDE channels supporting up to four IDE devices	One Intel® PRO/100+ Server Network Connection, one Intel PRO/1000 Server Network Connection	Four DIMMs, up to 4 GB of ECC DDR 266/333/400	Intel Server Management v5.8	

See **http://www.intel.com/go/serverbuilder** for details on specific Intel® Server Board configurations.

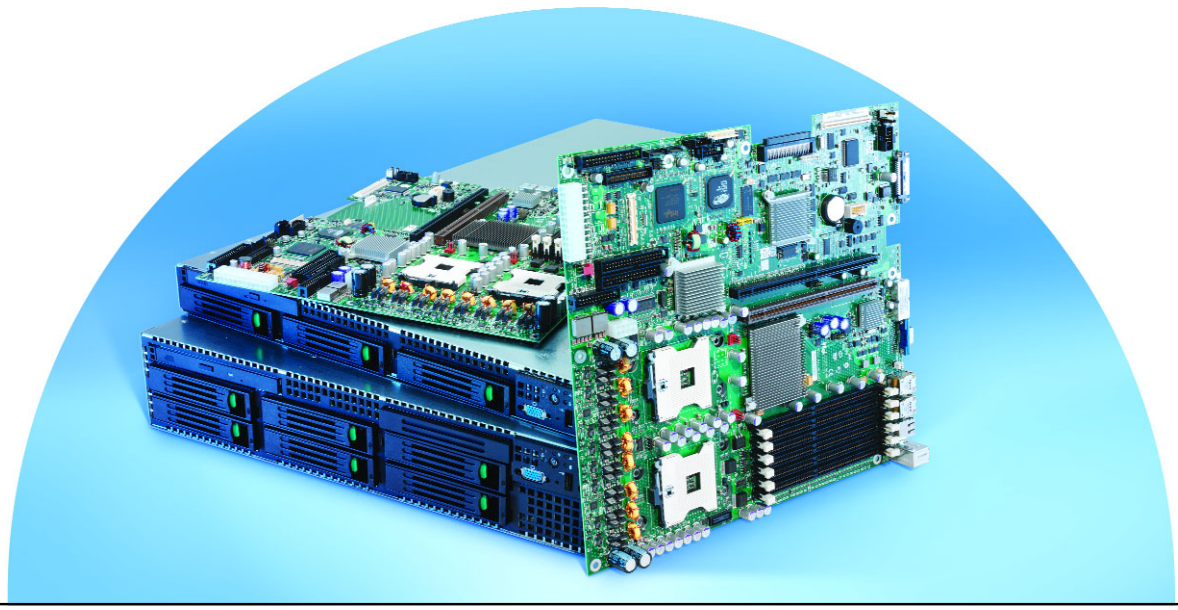
Compatible Products for Comprehensive Solutions

The following table provides a list of key compatible products for the Intel® Server Board SE7520JR2. Please see **http://support.intel.com/support/motherboards/server/se7520jr2** for the most recent and comprehensive product compatibility list.

Intel Building Block	Product Name(s)	Product Order Code(s)
Intel® Server Boards	**Intel® Server Board SE7520JR2** (supporting SCSI and DDR 266/333) **Intel® Server Board SE7520JR2** (supporting DDR2 400) **Intel® Server Board SE7520JR2** (supporting SCSI and DDR 266/333) **Intel® Server Board SE7520JR2** (supporting SCSI and DDR2 400)	**SE7520JR2ATAD1** **SE7520JR2ATAD2** **SE7520JR2SCSID1** **SE7520JR2SCSID2**
Intel® Server Platforms	**Intel® Server Platform SR1400JR2** (with Intel® Server Board SE7520JR2 and Intel® Server Chassis SR1400 and supporting DDR 266/333 and integrated dual-channel Ultra320 SCSI)	**SR1400SYS** **SR1400SYSNA**
	Intel® Server Platform SR2400JR2 (with Intel® Server Board SE7520JR2 and Intel® Server Chassis SR2400 and supporting DDR 266/333 and integrated dual-channel Ultra320 SCSI)	**SR2400SYS** **SR2400SYSNA**
	Intel® Server Platform SR2400JR2 (with Intel® Server Board SE7520JR2 and Intel® Server Chassis SR2400 and supporting DDR2 400 and integrated dual-channel Ultra320 SCSI)	**SR2400SYSD2** **SR2400SYSD2NA**
Intel® Server Chassis	**Intel® Server Chassis SR1400**	**SR1400** **SR1400NA**
	Intel® Server Chassis SR2400	**SR2400** **SR2400NA**
Intel® PRO Server Adapters	**Intel® PRO/1000 MT Server Adapter**	**PWLA8490MT**
Intel® RAID Controllers	**Intel® RAID Controller SRCU42E** **Intel® RAID Controller SRCU42X** **Intel® RAID Controller SRCZCRX** **Intel® RAID Controller SRCS16**	**SRCU42E** **SRCU42X** **SRCZCRX** **SRCS16**
Intel® Management Modules	**Intel® Management Module Professional Edition** **Intel® Management Module Advanced Edition**	**AXXIMMPRO** **AXXIMMADV**

For a complete list of spares and accessories, see the Intel® Server Board SE7520JR2 Configuration Guide at http://support.intel.com/support/motherboards/server/se7520jr2

The Intel® Server Board SE7520JR2 provides an ideal solution for organizations requiring a high-performing rack-mount system. In 1U environments the board can be paired with the Intel® Server Chassis SR1400, and in 2U environments the board can be paired with the Intel® Server Chassis SR2400.



Intel® Server Board SE7520JR2 Specifications

Processor

One or two Intel® Xeon™ processors with an 800MHz system bus; for the latest processor support information, visit http://support.intel.com/support/motherboards/server/se7520jr2

System Memory

For the latest information on memory support, visit http://support.intel.com/support/motherboards/server/se7520jr2

Capacity	Six DIMM sockets for up to 24 GB of Registered ECC DDR 266 or 16 GB of Registered ECC DDR 333 or DDR2 400; memory must be populated in pairs
Type	Registered ECC DDR 266/333 SDRAM 72-bit, 184-pin gold-plated DIMMs; DDR2 400
Reliability Features	Corrects single-bit errors, detects double-bit errors (using ECC memory); supports Intel® x4 Single Device Data Correction (SDDC), scrubbing, retry on uncorrectable errors, memory sparing, memory mirroring

Integrated Onboard

Chipset	Intel® E7520 chipset
Intel® Server Network Connections	Two Intel® PRO/1000 MT Server Network Connections (Intel® 82546GB controller); supports 10BASE-T, 100BASE-TX, and 1000BASE-T, dual RJ45 outputs
Super I/O Controller	National Semiconductor* PC87427
Integrated Management Controller	National Semiconductor PC87431M mini-Baseboard Management Controller
Graphics	ATI* RAGE* XL SVGA PCI video controller with 8 MB of video memory

Integrated Storage Support

Parallel ATA	Dual-channel ATA 100 (integrated single connector and service to backplane)
Serial ATA	Dual-channel SATA 100 (two connectors) integrated with RAID 0 and 1 support
Ultra320 SCSI[9]	Dual-channel Ultra320/LVD SCSI via LSI Logic* LSI53C1030 controller: connected via one internal 68-pin-wide connector and one 68-pin high-density external SCSI connector; maximum data transfer 320 MB/sec on each Ultra320/LVD channel; supports HostRAID* embedded SCSI striping/mirroring (RAID 0 and 1)

Input/Output

PCI	Four independent PCI buses, adapter slots on risers; 1U system Option 1: two PCI-X 100MHz, Option 2: one PCI Express* x8 and one PCI-X 100MHz; 2U system Option 1: six PCI-X 66/100MHz, Option 2: two PCI-X 133 MHz (active) and four PCI-X 66/100MHz, Option 3: two PCI Express* x4 and four PCI-X 66/100MHz[8]
IDE	Dual-channel EIDE for a total of four IDE devices (two on ATA connector, two on high-density connector to backplane)
USB	Two USB 2.0 ports (rear) and two USB headers for up to four additional external USB ports
Serial Ports	One asynchronous RJ45 Serial B port with one DH10 10-pin internal Serial A header
Floppy Controller	1.44 MB and 2.88 MB, 3-mode support
Keyboard/Mouse	Two PS/2* ports, 8240A-compatible

Intel® Server Management

Integrated Management Type	Onboard Platform Instrumentation
Software support	Intel® Server Manager 8 family of software; upgradable to support HP Unicenter*, Tivoli*, and LANDesk* Management Suite 8
Intel® Management Module Support	Professional and Advanced Editions
Supported Standards	IPMI, DMI, CIM, SNMP, ICMB

Fully Validated Operating Systems

Microsoft* Windows* Server 2003, Microsoft Windows 2000 Advanced Server, Red Hat* Linux*, SUSE* LINUX*, and Novell* NetWare*

System BIOS

Type	AMI*
Special Features	Plug and Play, IDE drive autoconfigure, SMBIOS 2.3, ECC/Parity support, multilingual support, enabled for rolling/online BIOS updates
Configuration Utilities	Server Configuration Wizard for system setup of BIOS utilities; Save and Restore System Configuration Utility and initial Intel Server Management configuration

Jumpers

CMOS clear, password clear, BIOS recovery, BMC boot block write protect

Front-Panel Support

Power LED, hard-drive activity LED, two network activity LEDs, system-ID LED, system-status LED; power on/off button, system reset button, system ID button, and NMI switch; optional Intel® Local Control Panel[6] for monitoring and control of the server from the front panel

Mechanical

Board Style	SSI Thin E-Bay v3.1
Board Size	12" x 13" (305 mm x 269 mm)

Environment

Ambient Temperature	Operating (system): 10°C to 35°C; non-operating/storage (system): –40°C to +70°C ambient
Relative Humidity	Non-operating 95%, non-condensing at 30°C

Safety and EMC Regulatory Compliance (Class A)

(EMC Regulatory Compliance is based on a board configured in an Intel host system in which Intel tested the board and found it compliant.)

Country	Certification *Safety and/or EMC*	Regulatory Mark *Safety and/or EMC*
Australia/ New Zealand	ACA, MED	C-Tick
Canada	UL / Industry Canada	cURus / ICES
Europe	European Directives	CE
International	CB Report / CISPR	Not applicable
Japan	VCCI (Verification only)	Not applicable
Korea	RRL	MIC
Russia	GOST	GOST
Taiwan	BSMI DOC	BSMI
United States	UL / FCC (Verification only)	cURus

[1] Intel® Extended Memory 64 Technology (Intel® EM64T) requires a computer system with a processor, chipset, BIOS, OS, device drivers and applications enabled for Intel EM64T. **Processor will not operate (including 32-bit operation) without an Intel EM64T-enabled BIOS**. Performance will vary depending on your hardware and software configurations. **Intel EM64T-enabled OS, BIOS, device drivers and applications may not be available.** Check with your vendor for more information.

[2] Enhanced Intel SpeedStep® technology is available on Intel® Xeon™ processors with an 800MHz system bus at operating frequencies of 3.40 GHz and above.

[3] The Intel® Server Board SE7520JR2 supports PCI Express* x8 in its 1U configuration and PCI Express x4 in its 2U configuration.

[4] PCI-X bus speed depends on board model and number of PCI-X slots that are populated.

[5] Features may vary depending on system configuration and may require the purchase and installation of an optional Intel® Management Module upgrade.

[6] The Intel® Local Control Panel requires the purchase and installation of an optional Intel® Management Module upgrade.

[7] Features sets may vary by board model. See http://www.intel.com/go/serverbuilder for more detail.

[8] Based on PCI riser support.

[9] SCSI support is available with product order codes SE7520JR2SCSID1 and SE7520JR2SCSID2.

For more information on how to make the Intel® Server Board SE7520JR2 part of your server environment, please contact an Intel® Channel Membership Programs participant.

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